

DEVICE ~~FOR AND PROCEDURE FOR~~ METHOD OF DISCHARGING DRAINING A  
COOKING LIQUID FROM A FOOD PRODUCT ~~COOKING APPARATUS~~ COOKER

CROSS REFERENCE TO RELATED APPLICATIONS

This application is the US national phase of PCT  
5 application PCT/EP2003/011026, filed 6 October 2003, published 29  
April 2004 as WO2004/034861, and claiming the priority of Italian  
patent application MI2002A002212 itself filed 18 October 2002,  
whose entire disclosures are herewith incorporated by reference.

FIELD OF THE INVENTION

10 The present invention refers to a device and ~~procedure~~  
for method of discharging draining a cooking liquid from a food  
~~product cooking apparatus~~ cooker. In particular, hereafter  
reference shall be made to cooking apparatuses like fryers. It  
is, however, clear that the same teachings can advantageously be  
15 used on similar apparatuses like electrical pasta cooking  
~~apparatuses~~ cookers, rice cookers, etc.

BACKGROUND OF THE INVENTION

For some time fryers have been present on the market  
equipped with an oil-containing bowl vessel and a basket which  
20 can be inserted in the bowl vessel in which the food products to  
be fried are to be ~~housed~~ held.

As is known, such fryers after a certain number of  
cooking cycles require the replacement of oil; however, this  
operation is very laborious since the entire fryer must be tipped  
25 up to pour out the oil from the bowl vessel.

It is clear that such an operation can cause numerous drawbacks, among ~~[[st]]~~ which we mention the danger of burning for the user and the staining of the resistance heating coils or other electrical parts of the fryer.

5 To avoid these drawbacks devices have been developed which allow the oil to be tipped out without the fryer needing to be ~~tipped up~~ raised or tilted. Such devices comprise bendable tubes made from flexible rubber equipped with an end cap. In practice, in a rest position these tubes are bent and housed in  
10 suitable seats formed in the body of the fryer, whereas in work position the tubes are ~~removed from the bending configuration~~ unbent and the cap is taken ~~[[away]]~~ off so as to ~~discharge~~ drain the oil, all while keeping the fryer in a flat position.

However, such devices have also presented numerous  
15 drawbacks, including the fact that the flexible rubber tubes do not ensure sufficient stability and safety and it is possible that, during ~~the discharge~~ draining of the oil, due to oscillations or vibrations, prompted for example by their own elasticity or by knocks or displacements of the fryer, the oil  
20 falls or splashes out ~~[[from]]~~ of the container ~~[[where]]~~ in which it is being collected.

Moreover, the rubber element, due to the heat and the repeated bending, tends to become damaged through time. ~~[[;]]~~  
The harmful effect of the ~~discharge of~~ draining oil, which can  
25 seep through the slits of the tube, is clear.

Moreover, with conventional fryers it is usually very difficult to ~~adjust the amount of~~ control the rate at which the cooking liquid ~~to be discharged~~ is drained and, moreover, sometimes the cap is removed after the tube has been removed and  
5 rectified, usually causing inconvenient drips.

#### OBJECTS OF THE INVENTION

The ~~technical task proposed~~ object of the present invention is, therefore, that of ~~realising~~ providing a device and ~~procedure for method of discharging~~ draining a cooking liquid  
10 from a food product cooking apparatus which cooker that allows the aforementioned technical drawbacks of the prior art to be eliminated.

Another object ~~In this technical task a purpose~~ of the invention is ~~that of realising~~ to provide a discharge device and  
15 procedure which are very stable and safe, in particular during [[the]] discharge of the cooking liquid.

Yet another purpose object of the invention is ~~that of~~ realising to provide a discharging draining device which is not subject to damage, due to heat and repeated bending, through  
20 time.

A further purpose of the invention is ~~that of realising~~ to provide a discharge device and procedure [[which]] that allow the discharge of liquid to be ~~partialised and, therefore, to be~~ controlled. [[;]] In this way it is possible to control the  
25 liquid which ~~comes out~~ is draining from the apparatus for example to take it to a certain level in the collection container and/or

in the ~~bowl~~ vessel of the apparatus, or else to fill the collection container without making it overflow.

The last but not least ~~purpose~~ object of the invention is ~~that of realising to provide~~ a ~~discharging~~ draining device and procedure ~~[[which]]~~ that allow the amount of cooking liquid to be discharged to be adjusted and, moreover, ~~[[which]]~~ that allow inconvenient drips to be prevented. ~~Advantageously, the partialisation is accompanied by the variation of the inclination of the tube.~~

#### SUMMARY OF THE INVENTION

These ~~objects~~ technical task, as well as these and other purposes, according to the present invention, are ~~accomplished~~ attained by ~~realising~~ a device for ~~discharging~~ draining a cooking liquid from a food product ~~cooking apparatus~~ cooker, characterized in that it comprises a ~~valve means for~~ intercepting ~~said the~~ cooking liquid and an outside ~~conveyance~~ means conduit of ~~said the~~ apparatus.

The present ~~finding~~ invention also refers to a ~~procedure for method of~~ discharging draining a cooking liquid from a food product ~~cooking apparatus~~ cooker, characterized in that it consists of rotating a substantially rigid tube, connected to a ~~valve means for~~ intercepting liquid, from an upward orientation to a downward orientation, simultaneously and progressively taking ~~said intercepting means~~ valve from a closed position to an open position, so as to allow the discharge of

said the liquid through said the intercepting means and said the tube.

#### BRIEF DESCRIPTION OF THE DRAWING

Further characteristics and advantages of the invention shall become clearer from the description of a preferred but not exclusive embodiment of the device and ~~procedure for method of discharging draining~~ a cooking liquid from a food product ~~cooking apparatus cooker~~ according to the ~~finding invention~~, illustrated for indicating and not limiting purposes in the attached drawings, in which:

—figure FIG. 1 shows a perspective view of a cooking apparatus like a fryer equipped with a ~~discharging draining~~ device according to the present ~~finding invention~~;

—figure FIG. 2 shows a cross section of the ~~discharging draining~~ device of figure FIG. 1 in closed configuration; and

—figure FIG. 3 shows a cross section of the ~~discharging draining~~ device of figure FIG. 1 in open configuration.

#### SPECIFIC DESCRIPTION

With reference to the quoted figures, an apparatus for cooking food products is shown, wholly indicated with reference numeral 1. The apparatus 1 ~~consists of is~~ a fryer but, in other examples, can be an electric pasta ~~cooking device~~ or ~~[[a]]~~ rice cooker. The apparatus 1 has, connected to a lower portion thereof, a device 2 for ~~discharging draining~~ a cooking liquid for

food products. The ~~discharging~~ draining device comprises a valve means 3 for intercepting the liquid and an outside conveyance means conduit 4 of ~~the apparatus~~. The intercepting valve means 3 are placed between the ~~conveyance means~~ conduit 4 and a bowl vessel 5 of the ~~device~~ apparatus 1 containing the cooking liquid.

In a preferred embodiment the intercepting valve means can be ~~partialised~~ and comprise a body housing 6 connected to the bowl vessel 5 and defining a seat in which a hollow ~~shutter~~ valve body 7 is connected, mobile between an open position (shown in figure FIG. 3) and a closed position (shown in figure FIG. 2). Advantageously, the ~~conveyance means~~ conduit 4 comprises a substantially rigid tube ~~which is~~ connected to the ~~shutter~~ valve body 7, a ~~recess~~ passage 8 of the ~~shutter~~ valve body being aligned ~~[[to]]~~ with a ~~recess~~ passage 9 of the tube 4.

~~Suitably,~~ In the open position the tube 4 is substantially vertical or tilted upward, and in the closed position the tube 4 is tilted downward.

As shown in the attached figures, the body housing 6 is ~~realised in~~ comprised of two portions parts 6a, 6b connected together with the interposition of a gasket 10, ~~[[with]]~~ the ~~portion part~~ part 6b ~~which has~~ having a groove 11 in which the tube 4 is slidably housed and ~~[[which]]~~ that limits ~~[[the]]~~ displacement through between two tilted angled end walls 20.

Moreover, the ~~discharging~~ draining device 2 comprises a ~~tubular connection element~~ connecting tube 12 placed extending between the bowl vessel 5 and the body housing 6 of the valve

means. ~~appropriately, the connection element~~ The tube 12 is tilted downward away from the bowl 5.

The operation of the device for ~~discharging~~ draining a cooking liquid from a food ~~product cooking apparatus~~ cooker according to the invention is clear from that which has been described and illustrated and, in particular, is substantially the following: [[.]]

When one wants to ~~discharge~~ drain the cooking liquid [[like]], for example [[,]] the oil of a fryer from the ~~bowl~~ vessel 5, the tube 4 is lowered ~~lowers~~ as indicated by the arrow F1.

The lowering of the tube 4 ~~causes the rotation of~~ rotates the ~~shutter valve body~~ 7 in its seat and, therefore, [[the]] progressively aligns ~~alignment of its recess passage 8~~ with the ~~recess passage~~ of the tube 12, allowing the oil to [[go]] flow out.

Advantageously, if the tube is only partially rotated, without ~~taking moving the passage 8 of the shutter valve body~~ into perfect alignment with the ~~recess passage~~ of the tube 12, the flow of oil ~~discharged~~ can be ~~partialised~~ limited.

To take the tube back into its rest position (FIG. 2) it is sufficient to rotate it as indicated by the arrow F2 up to vertical position.

Preferably, the ~~tilted~~ angled walls 20 of the groove 11 also constitute [[the]] end stops for [[the]] rotation of the tube 4 and define the closed position of FIG. 2 [[(]] with the

tube 4 vertical ~~[[ ]]~~ and the open position of FIG. 3 ~~[[ ( ) ]]~~ with the tube 4 tilted downward ~~[[ ]]~~.

The present ~~finding~~ invention also refers to a ~~proce-~~  
~~dure for method of discharging draining~~ a cooking liquid such as  
5 oil from a food ~~product cooking apparatus~~ cooker such as a fryer.

The procedure consists of rotating the substantially  
rigid tube 4 ~~[[ , ]]~~ connected to the valve means 3 for  
intercepting that normally blocks outward flow of the liquid,  
from an upward orientation to a downward orientation,  
10 simultaneously and progressively taking moving the intercepting  
means valve 3 from a closed position to an open position, so as  
to allow the discharge of the liquid through the intercepting  
means 3 and the tube 4.

In practice, it has been noted how the device and  
15 ~~procedure for method of discharging draining~~ a cooking liquid  
from a food ~~product cooking apparatus~~ cooker according to the  
invention ~~[[are]]~~ is particularly advantageous and ~~because they~~  
are particularly safe and reliable.

The device and ~~procedure for method of discharging~~  
20 draining a cooking liquid from a food ~~product cooking apparatus~~  
cooker thus conceived are susceptible to numerous modifications  
and variants, all covered by the inventive concept; moreover, all  
of the details can be replaced with technically equivalent  
elements. In practice, the materials used, as well as the sizes,  
25 can be whatever according to the requirements and the state of  
the art.